WatchTime THE WORLD OF FINE WATCHES

E-SPECIAL

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TESTING FOUR TOP CHRONOGRAPHS

- **OMEGA** SEAMASTER PLANET OCEAN
- **ZENITH** EL PRIMERO STRIKING 10TH
- **IWC** PORTUGUESE YACHT CLUB
- **SEIKO** ANANTA AUTOMATIC

4 REVIEWS FROM THE PAGES OF WATCHTIME

October 2013

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Testing Four Top Chronographs E-Special, October 2013

This special tablet reprint contains a quartet of articles reviewing four chronograph watches. In them, our WatchTime testers report on their experiences wearing and using the watches and evaluate them for ease of use, comfort, legibility and looks. The articles also provide the results of the watches' timing tests, performed on a timing machine and on the wrist. For each watch, the articles give a bullet-point list of "pros" and "cons" summarizing the tester's findings. All four articles were published in WatchTime magazine and have been reproduced as they originally appeared.

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ON THE COVER: Clockwise from top left, the Omega Seamaster Planet Ocean Chronograph, the Zenith El Primero Striking 10th, the Seiko Ananta Automatic Chronograph, and the IWC Portuguese Yacht Club Chronograph. Photos by Nik Schölzel, OK-Photography, and Fotofabrik Kempten

WatchTime

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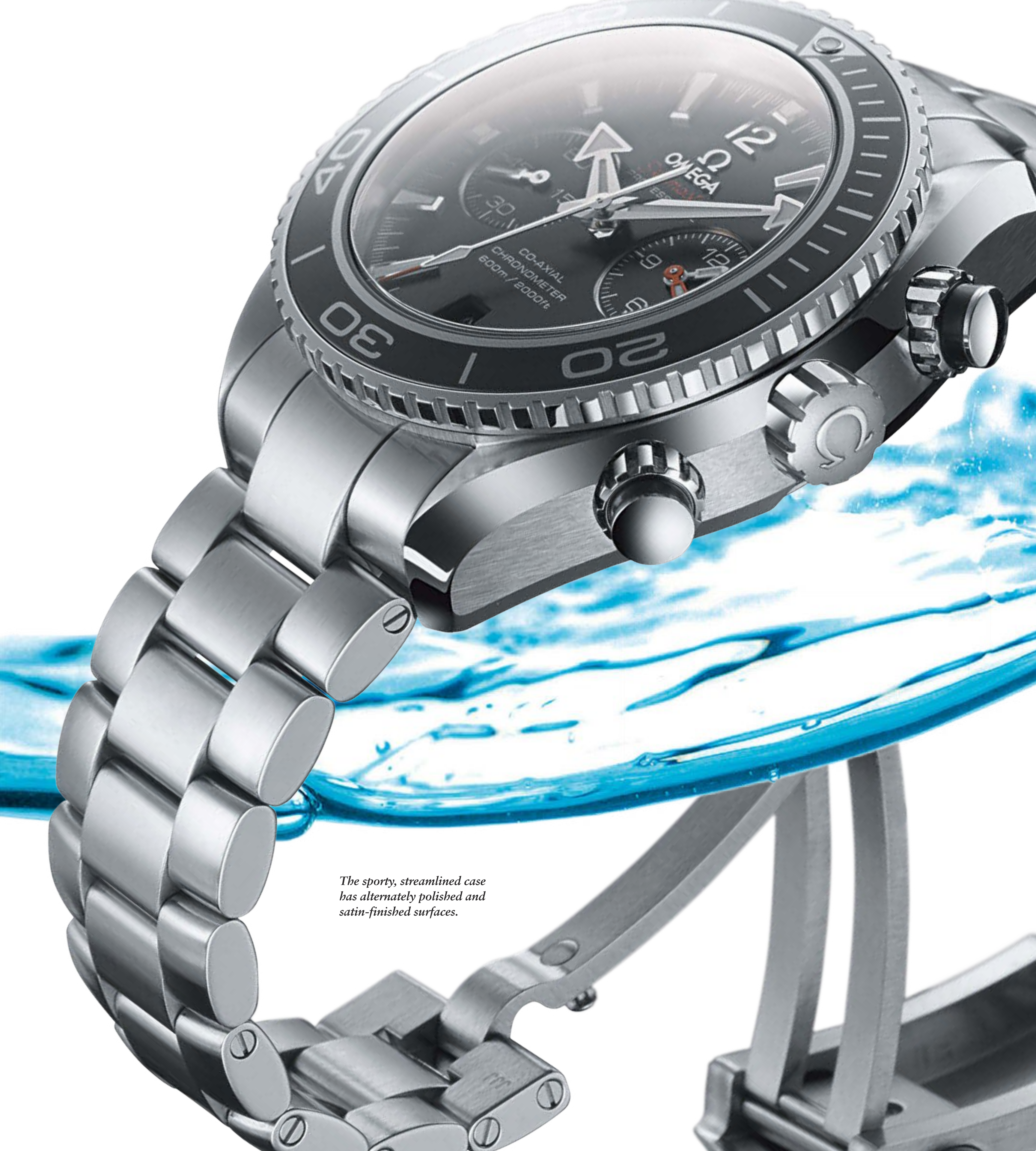
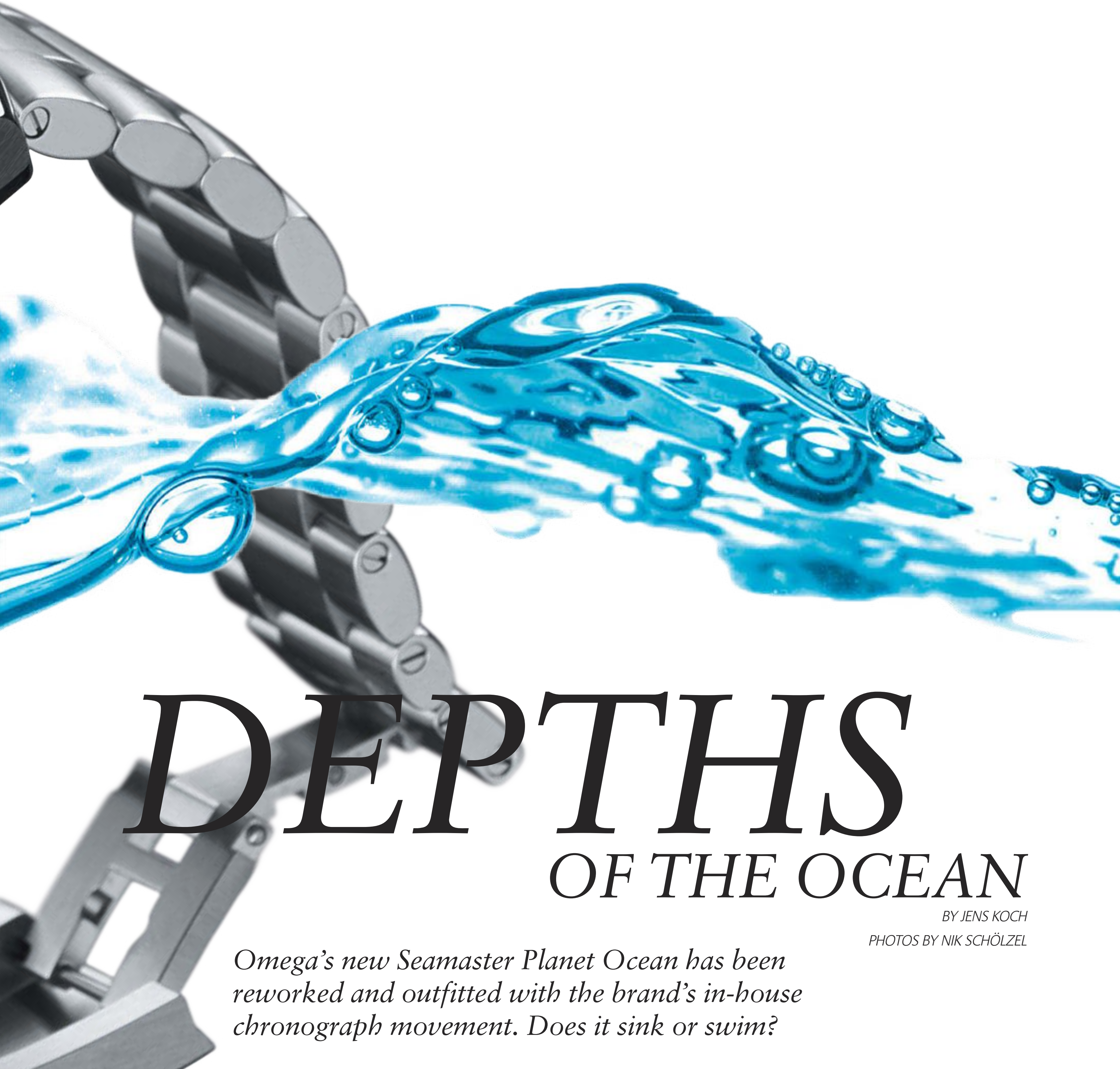


The sporty, streamlined case has alternately polished and satin-finished surfaces.



DEPTHS
OF THE OCEAN

BY JENS KOCH

PHOTOS BY NIK SCHÖLZEL

Omega's new Seamaster Planet Ocean has been reworked and outfitted with the brand's in-house chronograph movement. Does it sink or swim?

Omega got the watch world's attention in 1999 when it introduced the co-axial escapement. Never before had a brand used anything other than a Swiss lever escapement in a serially manufactured wristwatch. At first, only specially modified ETA calibers were equipped with the new escapement, which was developed by George Daniels, but in 2007 it was also incorporated in Omega's first *manufacture* movement, Caliber 8500.

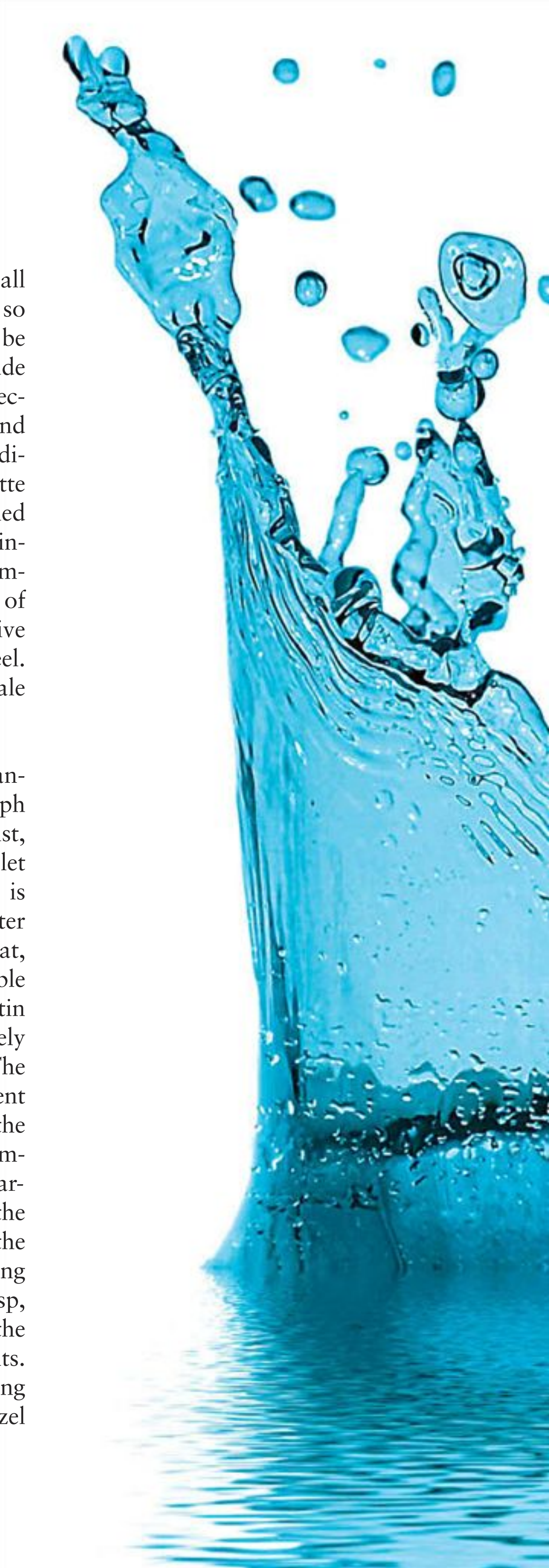
This movement finally provided enough space to construct the co-axial escapement on three levels, which further improved it. Omega followed up Caliber 8500 with a movement for an annual calendar (Caliber 8601) and one for use in ladies' watches (Caliber 8520).

The company took its dedication to co-axial escapement movements to another level this year with the introduction of in-house chronograph Caliber 9300. The complexity of a chronograph movement makes it extremely difficult for a brand to develop and industrialize one of its own, but Omega accepted the challenge, and the successful result makes its debut in the brand's new Seamaster Planet Ocean.

The Seamaster Planet Ocean Chronograph continues a long tradition of Omega divers' watches, which began with the Omega Marine in 1932. The Seamaster line started in 1948. The Seamaster 300, which debuted in 1957, was particularly influential for the design of future Seamaster models, with its wedge-shaped, luminous indices, an arrow-shaped hour hand with luminous coating and a rotatable bezel that snapped sequentially into place according to the markings on its minutes scale. These design elements continued in the Seamaster Planet Ocean collection, introduced in 2005. The hands (both of which are now arrow-shaped), the indices, and even the hour numerals and numerals on the divers' scale all echo the styling of the more-than-50-year-old model. But the new Planet Ocean doesn't look at all "retro": quite the contrary, it looks so distinctively up-to-date it could almost be described as trendy. The reasons include the orange accents on the elapsed-seconds hand, the elapsed-minutes hand and the Seamaster logo; the case's opulent diameter of 45.5 millimeters; the matte black ceramic bezel; and the case's refined shape with alternately polished and satin-finished surfaces. Incidentally, the ceramic used for the bezel has a hardness of 1,200 Vickers, which makes it almost five times more scratch-resistant than steel. The numerals and indices along its scale are made of chromium nitride.

DESPITE ITS LARGE SIZE and substantial weight (241 grams), this chronograph is surprisingly comfortable on the wrist, thanks largely to the flexible steel bracelet and the flat folding clasp, which is smooth on its inner surface. The outer side of the clasp is also smooth and flat, which unfortunately makes it susceptible to scratches, even though it has a satin finish. The bracelet is also completely satin-finished on its outer surface. The polished sides ensure that these different surfaces alternate, as they also do on the case. The bracelet isn't particularly complex, but it has a high-quality appearance. Furthermore, the model with the bracelet costs just $200 more than the one with the rubber strap. A 2.5-cm-long extension piece folds out of the clasp, which means most divers can wear the watch over the sleeve of their diving suits.

The clasp is easily opened by pressing two lateral buttons. The rotating bezel



SPECS

OMEGA SEAMASTER PLANET OCEAN CHRONOGRAPH

Manufacturer: Omega S.A., Rue Stämpfli 96, CH-2504 Bienne, Switzerland

Reference Number: 232.30.46.51.01.001

Functions: Hours, minutes, seconds; date; chronograph with central seconds hand and combined 60-minute and 12-hour counter; bezel rotates in one direction only; helium valve

Movement: Omega 9300, automatic, chronometer; 28,800 vph; 54 jewels; two barrels; Nivachoc shock absorption; Glucydur balance; fine adjustment via weight screws on the balance; co-axial escapement; 60-hour power reserve; diameter = 32.5 mm; height = 7.6 mm

Case: Stainless steel, curved sapphire crystal with nonreflective treatment on both surfaces, fully threaded caseback with sapphire viewing window, threaded crown, water-resistant to 600 meters

Bracelet and clasp: Stainless steel, folding clasp with two buttons and fold-out extension piece

Rate results
(Deviations in seconds per 24 hours, without/with chronograph switched on):

Dial up	+2	+2
Dial down	+3	+3
Crown up	+6	+4
Crown down	+1	0
Crown left	+4	+4
Crown right	+2	+1
Greatest deviation of rate:	5	4
Average deviation:	+3	+2.3
Mean amplitude:		
Flat positions	277°	292°
Hanging positions	256°	262°

Dimensions: Diameter = 45.5 mm, height = 19 mm, weight = 241 grams

Variations: With orange aluminum bezel ($7,700); on rubber strap with black ceramic ($7,700) or orange aluminum bezel ($7,500), steel with diamond bezel, on steel bracelet ($20,600) or leather strap ($20,500); titanium with leather strap ($10,000) or titanium with titanium bracelet ($10,500)

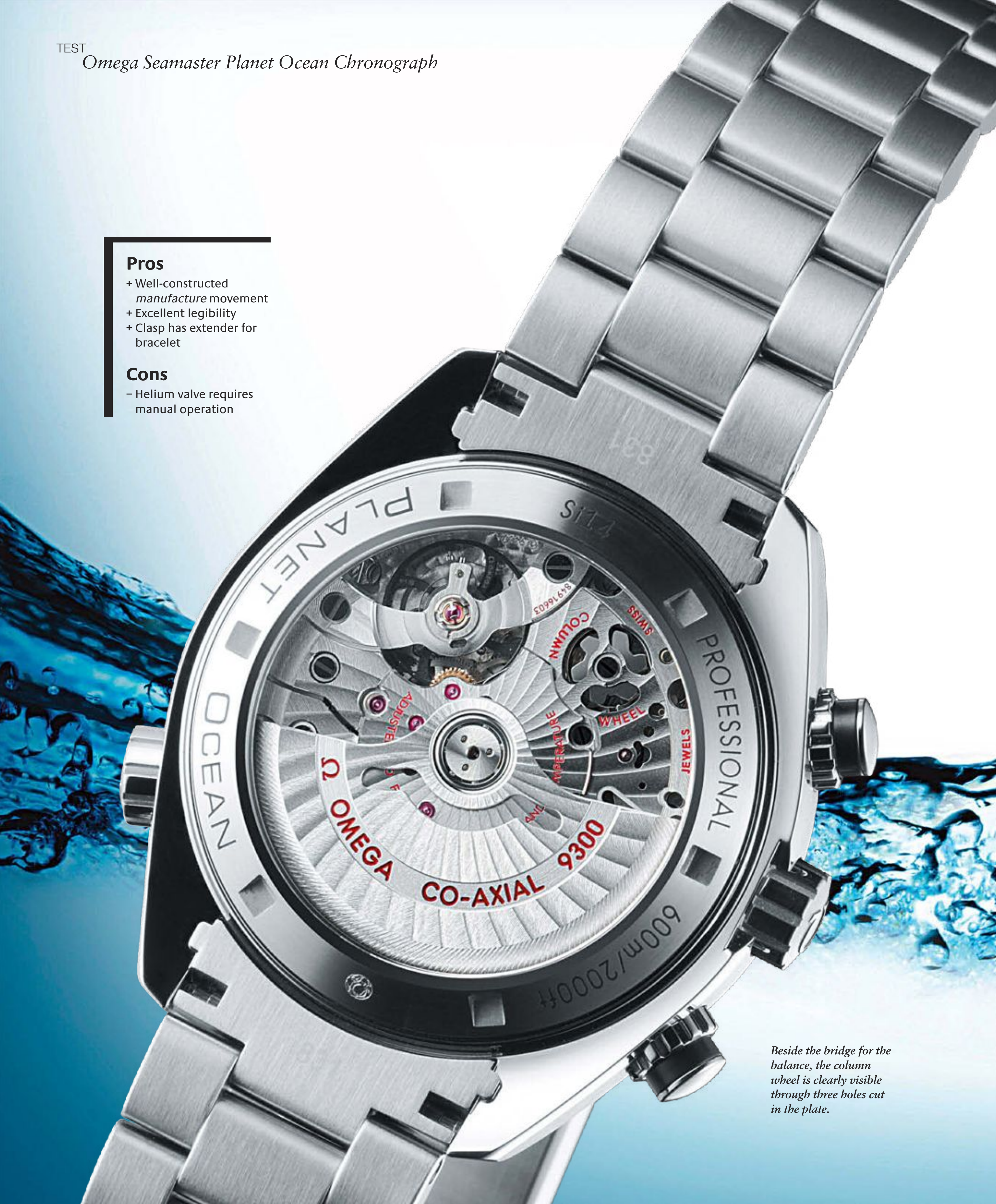
Price: $7,900

Pros

- + Well-constructed *manufacture* movement
- + Excellent legibility
- + Clasp has extender for bracelet

Cons

- − Helium valve requires manual operation



Beside the bridge for the balance, the column wheel is clearly visible through three holes cut in the plate.

moves just right — neither too smoothly nor too stiffly — although the sound it makes when it clicks into place doesn't inspire unconditional confidence.

The helium-release valve doesn't work automatically, but must be unscrewed by hand using the crown at 10 o'clock. However, this is only an issue for the handful of professional divers worldwide who spend time in pressurized chambers. Of course, Omega also makes watches with automatic helium release valves, such as the Ploprof.

The helium-release valve and the crown are threaded, but fortunately the push-pieces only look that way and need not be unscrewed before each use. The crown is easy to grasp and to extract. The watch has a stop-seconds function for to-the-second time setting, but there's no quick-reset mechanism for the date. As on all new Omega *manufacture* calibers, when the crown is in the middle position it resets the date display in either direction in hourly increments and without stopping the movement. This is a convenient feature when resetting the watch for a new time zone or when switching between standard time and daylight saving time. The date display can be reset very quickly, especially because it also switches backward when the hour hand is reset counterclockwise.

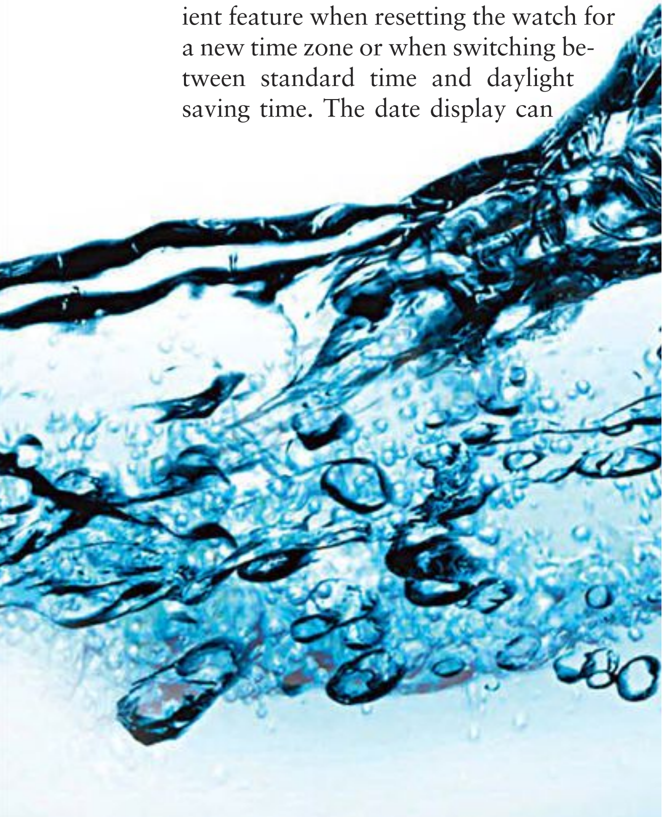
Another special feature of this new chronograph caliber: the subdial at 3 o'clock tallies both 12 elapsed hours and 60 elapsed minutes. The elapsed time can be read intuitively, as on an ordinary clock face. The running seconds subdial at 9 o'clock contributes to a beautiful and symmetrical arrangement that also provides ample space for the date at 6 o'clock. The subdials were much closer toward the dial's center on this watch's immediate predecessor. The new movement has a diameter of 32.5 mm, ideal for this larger watch.

The large, arrow-shaped hands and wedge-shaped indices contrast boldly with the matte black dial. The white Super-LumiNova glows bright blue in the dark, except on the minute hand and the luminous index on the rotating bezel, where it shines in the more traditional greenish hue. Their matching color indicates that they are used together.

If you turn this watch over, you won't find the steel caseback with the famous seahorse emblem that has adorned Seamaster watches since 1958. Instead, there's a sapphire window offering a clear view of the movement, which definitely merits a good look.

Caliber 9300 has a column wheel to control the chronograph's functions. Apertures cut in the plate ensure that this component is clearly visible. The coupling mechanism is vertical and switches without delay. The embellishments are unconventional: the balance is coated with black chrome and the screws are also blackened. Geneva waves that widen spirally outward are Omega's characteristic finish: they adorn all of its *manufacture* calibers, including this one. The balance's bridge is also easily seen: since it's screwed on both sides, it's sturdier than a conventional balance cock, which is affixed on only one side. A plate covers most of the other mechanisms, including the chronograph mechanism, of which only a small part is visible.

Through a loupe, a sharp eye can discern the silicon hairspring and parts



SCORES

OMEGA SEAMASTER PLANET OCEAN CHRONOGRAPH

Bracelet and clasp (max. 10 points): The steel bracelet is sturdy and well-crafted, but its shape is rather simple. The folding clasp with safety buttons fits securely and has a practical extension piece. **8**

Operation (5): While the movement is running, the screwed crown can be turned to reset the hour hand either forward or backward in hourly increments, thus conveniently resetting the date display, too. This watch has a stop-seconds function, smoothly working push-pieces and an easy-to-rotate bezel. **5**

Case (10): The attractively alternating satin-finished and polished surfaces follow the curving lines of the case. The scratch-resistant ceramic bezel, exhibition back and high degree of water-resistance are also pluses. **8**

Design (15): Very handsome styling, inspired by a historical watch, but modified for contemporary tastes. **14**

Legibility (5): Easy to read both night and day: the minute hand and the index on the divers' bezel glow green; the other indicators, including the small seconds and the chronograph hands, glow blue. **5**

Wearing comfort (10): Considering its weight and thickness, the watch is still rather comfortable to wear. **7**

Movement (20): Caliber 9300 is a well-designed *manufacture* chronograph movement with a co-axial escapement, an antimagnetic silicon hairspring and precise, index-free fine adjustment. **18**

Rate results (10): Very good rate performance, worthy of a chronometer, even with the chronograph switched on. **8**

Overall value (15): Fairly priced for this level of quality. **13**

TOTAL: 86 POINTS

THE DIVERS' BEZEL MOVES JUST RIGHT — NOT TOO SMOOTHLY OR STIFFLY.

The divers' extension piece pivots from the clasp, enabling the watch to fit over the sleeve of a diving suit.

of the co-axial escapement. This movement was designed so that the escape wheel of the co-axial escapement has three rather than two functional levels and thus works more efficiently. Despite the obvious improvements made in Omega's *manufacture* calibers, the escapement still needs a thin film of oil; it cannot run entirely without lubrication.

There is no index necessary for fine adjustment. Gold nuts are screwed onto threads that are positioned along the rim of the balance and point toward its center, so the silicon hairspring, which resists shocks and is nearly unaffected by magnetic fields, is entirely free to breathe. The shock absorption has also been improved: the new Nivachoc shock absorbers increase the accuracy of the centering of the balance staff, thus reducing positional errors.

This caliber has a higher frequency than Caliber 8500 — 28,800 vph rather than 25,200 vph — which means the seconds hand advances through eight rather than seven steps each second. That's a more practical situation for a chronograph, because now each second along the dial's scale can have three strokes subdividing it into four increments. There isn't enough room for seven subdivisions and 3½ of them is a graphic impossibility.

The lengthy power reserve (60 hours) is a welcome feature. Omega achieved this with a reversing train that enables the rotor to wind the two serially arranged barrels in both its directions of motion. The rotor doesn't run in a sliding contact bearing as it does in Caliber 8500, but is instead borne by ball bearings. Fifty-four jewels minimize friction.

Like most Omega calibers, the 9300 is certified as a chronometer by the official Swiss testing authority, COSC. We rechecked and confirmed its chronometric accuracy with a Witschi Chronoscope X1 timing machine, which is capable of testing watches with co-axial escapements. (Most timing machines cannot, because a co-axial escapement generates an entirely different ticking sound than that produced by a Swiss lever escapement.) The greatest deviation among the various positions was five seconds, and the average deviation among the positions was +3 seconds per day. These values were even better with the chronograph switched on, when the amplitude also increased rather than declining. The Planet Ocean delivered a very good performance on the wrist, where it posted a slight daily gain of 2 to 2½ seconds.

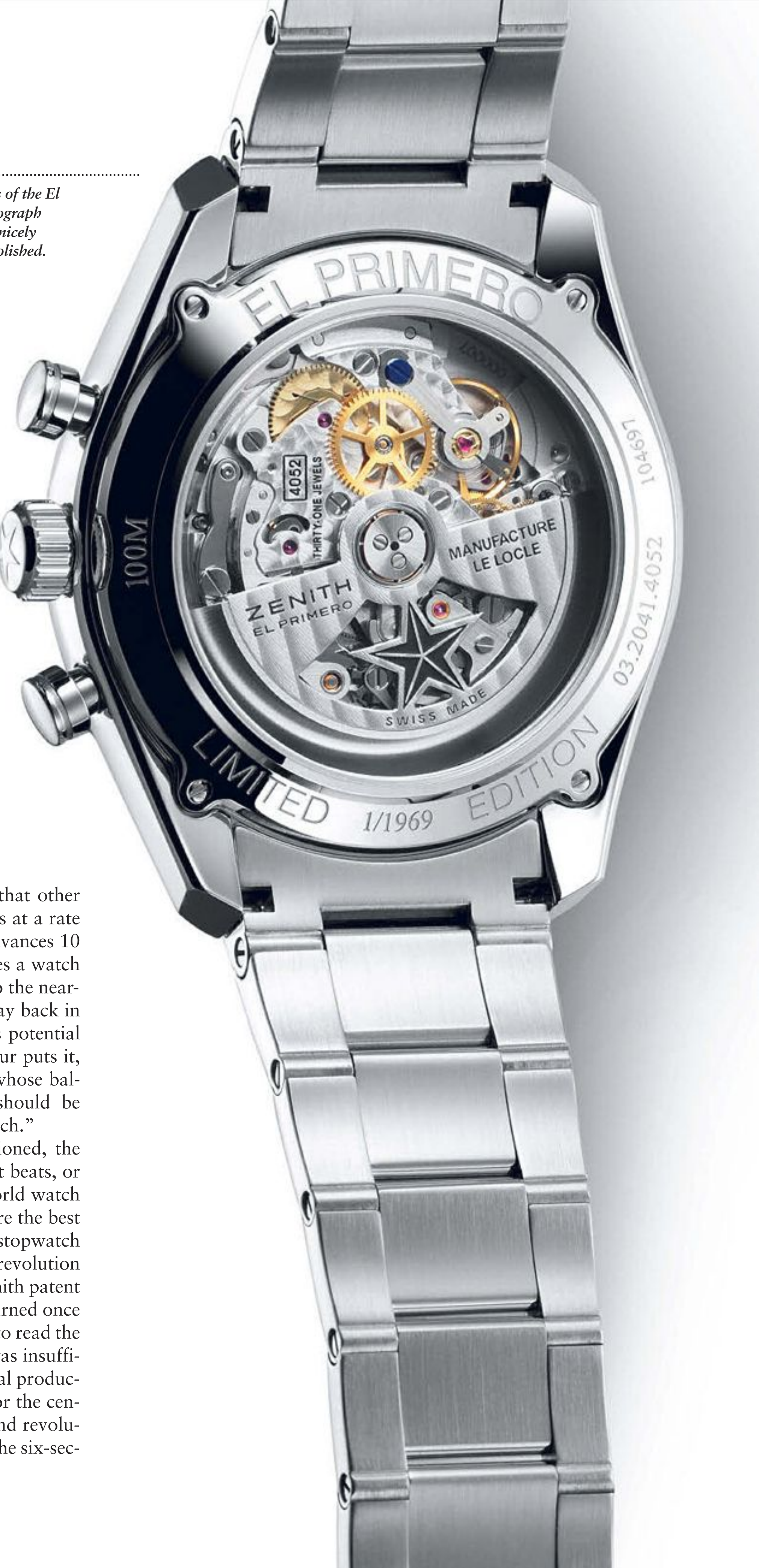
The high-quality craftsmanship and the elaborately designed movement add to the watch's price. The Planet Ocean Chronograph with a steel bracelet costs $7,900, a fair price for an Omega and especially for the Planet Ocean line, which has a very good reputation and a history of maintaining value over the years. Other divers' chronographs in steel cases with *manufacture* movements can cost twice as much, and cannot boast refinements like a silicon hairspring or a co-axial escapement. The Planet Ocean's only real downside is its heavy weight and thickness, although these are to be expected with such a wide case. Some wearers might even enjoy the extra weight on their wrists, which reminds them that they're wearing a watch; others might wish to spring for the more lightweight titanium version ($10,000 on a leather strap, $10,500 on a titanium bracelet). And of course, the weight of a divers' watch becomes almost unnoticeable when the wearer is under water. ○

TENTH POWER

Zenith's marquee model at the 2010 Baselworld watch fair can measure time to the nearest 1/10 second. WatchTime *put this innovative chronograph to the test.*

BY ALEXANDER LINZ
PHOTOS BY NIK SCHÖLZEL

ZENITH
EL PRIMERO
1/10 OF A SECOND
60
45
30
60
20
50
10
30



All the surfaces of the El Primero chronograph movement are nicely decorated or polished.

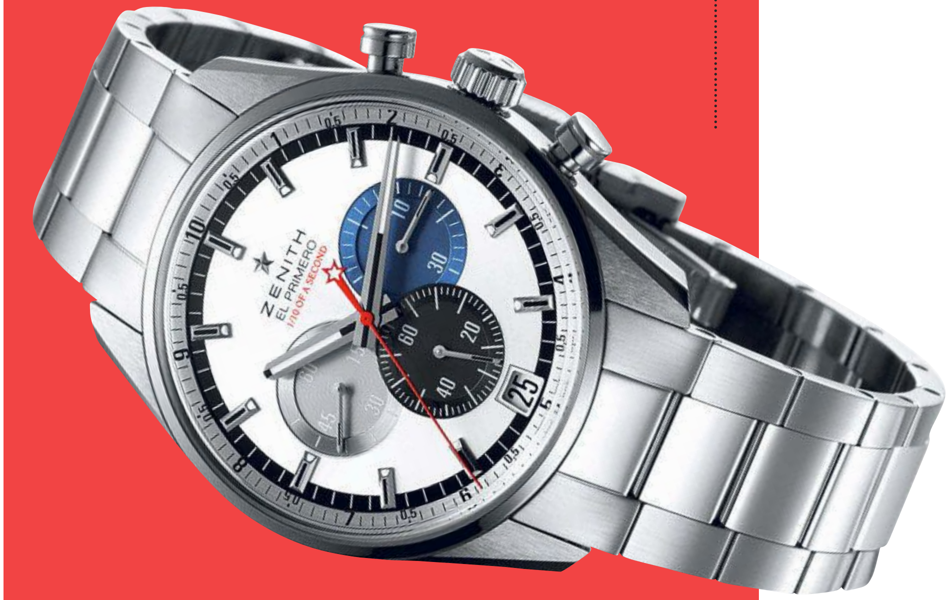
The El Primero caliber from Zenith boasts a feature that other watch movements cannot: its balance wheel oscillates at a rate of 36,000 vph, which means that the second hand advances 10 times per second. This high-frequency balance enables a watch with this movement to make precise measurements to the nearest 1/10 second. Zenith introduced the El Primero way back in 1969, but has never made a watch that fulfilled this potential until now. As Zenith's new CEO Jean-Frédéric Dufour puts it, "If you have a watch movement in your repertoire whose balance oscillates at 36,000 vph, then this feature should be brought to the fore and be a visible feature of the watch."

Zenith introduced the watch that Dufour envisioned, the Zenith El Primero Striking 10th (so named because it beats, or "strikes" 10 times per second), at this year's Baselworld watch fair. Dufour explains the concept behind it: "To ensure the best possible legibility of the 1/10 seconds, the central stopwatch hand of the El Primero caliber makes one complete revolution every 10 seconds. Here, our 4052 B caliber uses a Zenith patent from 2002, in which the central chronograph hand turned once every four seconds. However, because it was difficult to read the elapsed time and the performance of the prototype was insufficient, it was impossible to consider putting it into serial production." Zenith experimented with additional speeds for the central chronograph seconds hand, with six- or 12-second revolutions. Dufour says, "If, for example, we had selected the six-second option, the numeral '1' on the inner flange would have had to represent seven seconds after one revolution and 13 after two revolutions. With a rotational period of 12 seconds, the '1' would stand for 13, 25, and so on. Apart from a single revolution in one second — a true *'foudroyante,'* but designed as a centralized second — which would have been impractical to create, only the 10-second option remained. That way, the legibility of the 1/10-second divisions on the inner flange could be expanded by a factor of six and still keep the counting logic."

What Dufour means is that previously, Zenith divided the space between two second markers into four additional, smaller graduations resulting in markings for 2/10 of a second. If one also includes the spaces between the marks, this gives a division into 1/10 seconds that is barely visible. The second hand moves in 0.6-degree increments over the track. The hand on the new chronograph display now moves in 3.6-degree increments over the track.

> *WORN ON THE WRIST WITH THE CHRONOGRAPH NOT RUNNING, THE WATCH IMPRESSED US WITH ALMOST PERFECT RATE RESULTS.*

The retro design is attractive, but part of the 60-second counter at 3 o'clock is covered and unreadable.



SPECS

ZENITH EL PRIMERO STRIKING 10TH

Manufacturer: Zenith, Rue des Billodes 34, CH-2400 Le Locle, Switzerland

Reference number: 03.2040.4052/69.M2040

Functions: Hours, minutes, small seconds, date, 1/10-second chronograph with central seconds hand, 60-second and 60-minute counters

Movement: Caliber 4052 B, automatic; 36,000 vph; 326 parts including 31 jewels; Swiss lever escapement; Glucydur balance; self-compensating Nivarox I flat hairspring; Kif shock absorption; lift angle = 52°; bi-directional heavy metal rotor; Generale Ressorts barrel with Nivaflex M mainspring; 50+-hour power reserve; diameter = 30 mm; height = 6.6 mm

Case: Solid, three-part stainless-steel case with four screws fastening the sapphire caseback; both crystals have nonreflective treatment on both sides; water-resistant to 100 meters

Bracelet and clasp: Steel bracelet with double-folding clasp

Rate results (deviation in seconds/day):

(Without/with chronograph switched on)

Dial up	-2	-5
Dial down	+1	-2
Crown up	0	-12
Crown down	-1	+2
Crown left	0	-7
Crown right	-1	-1
Greatest deviation:	3	14
Average deviation	-0.5	-4.2
Average amplitude:		
Flat positions	266°	191°
Hanging positions	223°	168°

Dimensions: Diameter = 42 mm, height = 12.75 mm, weight 176 g

Variations: Limited to 1,969 pieces in stainless steel and 500 pieces in rose gold

Price: $11,800 ($10,900 with leather strap; $24,800 for rose gold on strap)

SCORES

ZENITH EL PRIMERO STRIKING 10TH

Bracelet and clasp (max. 10 points): Nicely finished, but the gaps between the links are rather large, leading to pulling of the fine hairs on the wrist. The clasp works well but is somewhat difficult to use. **8**

Operation (5): Absence of a hack mechanism makes it more difficult to set the time with precision. The chronograph functions work perfectly and the pusher action is good. **4**

Case (10): Excellent finishing on the three-piece steel case. **9**

Design (15): This attractive, retro design is based on a model from 1969, but has a modern appeal. **13**

Legibility (5): Time, date, and the 1/10 seconds track are easy to read; elapsed time counters are partially covered. **5**

Wearing comfort (10): A diameter of 42 mm is a perfect size for this watch. It fits snugly against the wrist, and even with a metal bracelet it is not heavy. **10**

Movement (20): Interesting and patented design, based on an updated version of Zenith's well-known El Primero chronograph movement. The decorations are well-executed. **17**

Rate results (10): Without the chronograph the rate results are almost perfect. Activating the chronograph causes a significant rate loss in some positions. **8**

Overall value (15): The first watch that capitalizes on the strength of the El Primero, namely the precise measurement of 1/10s of a second, it is fairly priced. **13**

TOTAL: 87 points

ZENITH'S DESIGNERS had a clever idea to ensure that the large chronograph hand always matches up with one of the 100 graduations (the 1/10-second scale on the inner flange) when using the chronograph function. They used a chrono-runner that is not stopped by a conventional brake lever. Instead, the lever has a small indexing beak that fits into the grooves of the wheel and precisely aligns the position of its hand. In numerous starts and stops during our test, the red chronograph hand stopped exactly on one of the 100 graduations every time, a testament to the high level of precision of the components.

The watch's power does not come from the second wheel, as is normally the case, but from the more rapidly turning escape wheel. This in turn drives the chrono-runner and the seconds display, which is located at the 3 o'clock position (and which sweeps rather than jumps in order to conserve energy). The bi-level clutch wheel is made of a single piece of silicon and is three and a half times lighter than a conventional wheel, in order to minimize inertia; a small wheel drives it. The clutch wheel remains continuously engaged, even when the chronograph is not running. Once the command comes from the column wheel to engage, the clutch wheel moves forward, where it meshes with the chrono-runner. The second wheel for the seconds counter (located at 3 o'clock) is directly linked to the chrono-runner, so it begins to move as well. To ensure that there is no hesitation in the horizontally arranged clutch mechanism when the chronograph hand begins to move, the disen-

CALIBER 4052 B HAS A NEWLY DESIGNED BIDIRECTIONAL ROTOR THAT IS SKELETONIZED TO ACCENT THE ZENITH "STAR" LOGO IN THE CENTER.

PROS

+ Interesting technical features
+ Exclusive in-house movement
+ 1/10 seconds are easy to read
+ Attractive design

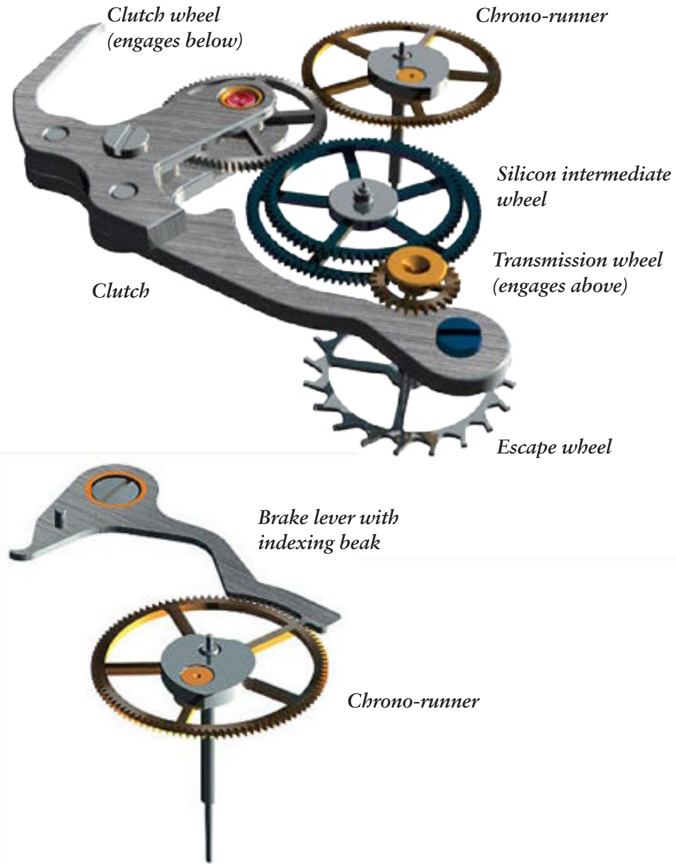
CONS

– Double-folding clasp is somewhat difficult to use
– Slower rate when chronograph is running
– 60-minute counter overlaps the 60-second counter

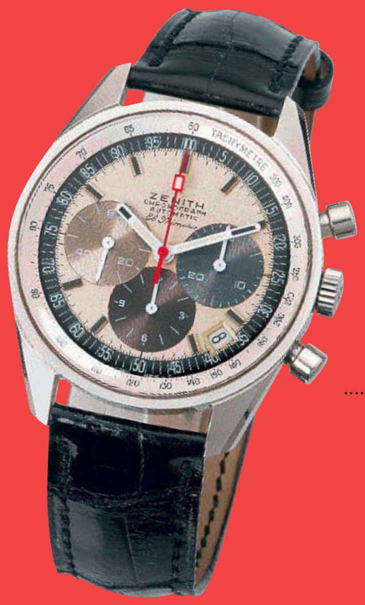
gaging of the brake lever and the friction spring are delayed slightly. When the lever begins to move and the engaging process is started, its friction spring will continue to inhibit the movement of the wheel. Only when there is no more play, and the hand can also move in the opposite direction, will the lever completely release the friction spring. This entire process occurs in the blink of an eye, and at a precisely defined moment, thanks to the column wheel. This means that there is no measurable effect on the amplitude as a result of the momentary increase in friction. What the wearer of the watch sees on the dial is a smooth, immediate startup of the central seconds counter. At the same time, the small 60-second counter at 3 o'clock and the 60-minute counter at 6 o'clock begin to move. The continuous seconds subdial is at 9 o'clock. For aesthetic reasons, and to echo the appearance of the 1969 original El Primero watch as closely as possible, Zenith decided to overlap the subdials on the main dial. (The design is a reverse of the original, on which the subdials at 3 and 9 o'clock partially cover the one at 6 o'clock). Sometimes this complicates the reading of the elapsed time, particularly in the area between 30 and 40 seconds. We would have preferred to see a simpler 60-minute counter that did not impinge on the seconds track. On the other hand, this design provides a clear view of the date display at the 6 o'clock position.

Turn over the three-part, retro-look case and the large sapphire window gives an unobstructed view of the 4052 B caliber.

KEY ELEMENTS OF THE CHRONOGRAPH MECHANISM

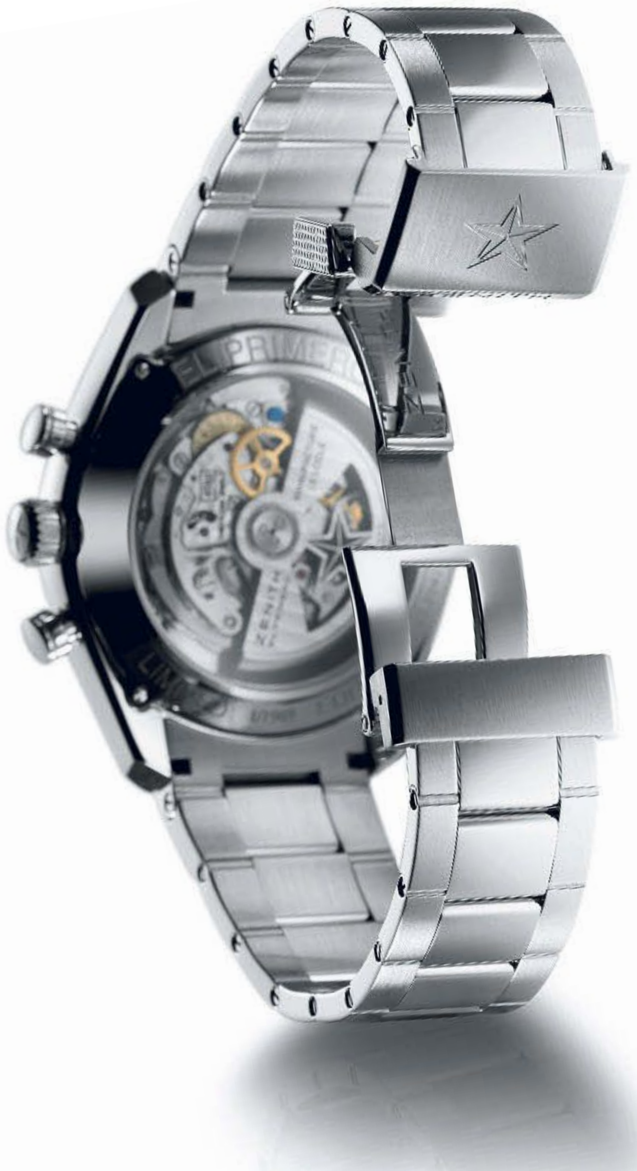

Clutch wheel (engages below)
Chrono-runner
Silicon intermediate wheel
Transmission wheel (engages above)
Clutch
Escape wheel
Brake lever with indexing beak
Chrono-runner

The Zenith "star" logo is found on the chrono seconds hand and on the crown.



This original El Primero from 1969 had the two outer counters overlapping the 12-hour counter; in 2010, this is reversed.

The metal bracelet is well made, but the clasp presents a bit of a challenge.



As is typical of Zenith, every surface is nicely decorated or polished and all the edges are beveled. The beautiful movement lures the eye and invites the viewer to discover new details. We particularly appreciated the newly designed bidirectional rotor. It is skeletonized to accent Zenith's "star" logo in the center. Fifty hours of power reserve are provided by a 490-mm Nivaflex M mainspring in a Generale Ressorts barrel, which has an impressive torque of 1,500 mm-g with 7.2 turns. The Swiss lever escapement with Kif shock absorber boasts a Glucydur balance and an automatically compensating Nivarox 1 flat hairspring. The working surfaces of the escapement are coated with a dry lubricant to minimize friction.

SO MUCH FOR TECHNICAL details. How did the test watch run? Worn on the wrist with the chronograph not running, the Zenith impressed us with almost perfect rate results — results that were confirmed by the electronic timing machine. When the chronograph was engaged for an extended period of time the watch tended to slow somewhat, both on the wrist and on the timing machine. At such a high rotational speed, this is the result of the inertia of the many different components in the gear train which, despite their light weight and impeccable fine-tuning, affect the amplitude. Generally speaking, this should not be an issue for most people, who do not allow their chronographs to run continuously.

The timing-machine tests required more time and effort than usual. The many secondary sounds caused by the numerous and continuously running wheels interfered with the modern equipment we initially used. We resorted to using an older machine whose microphone was not quite as sensitive, and the "old timer" ended up doing a better job in giving us the results. Zenith uses a laser to measure the rate of the 4052 B caliber in order to save time during the regulating process and also to achieve absolute reliability of the readouts.

The only problem we encountered with the watch's comfort was in the double-folding clasp on the steel bracelet. Releasing it requires moving the push-buttons horizontally without pressing them inwards, a challenge for even the most dexterous fingers. ○

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Pros

+ Very easy-to-read dial
+ Good craftsmanship
+ Attractive design

Cons

− Date display changes slowly
− Water-resistant to only 60 m

BRINE TIME

Can IWC's new sailing watch, the Portuguese Yacht Club Chronograph, survive the perfect storm of a WatchTime *test?*

IWC Portuguese Yacht Club Chronograph

BY JENS KOCH

PHOTOS BY OK-PHOTOGRAPHY

In 1967, IWC launched a watch that would become one of the brand's biggest success stories: a sporty, three-handed automatic called the Yacht Club. Though little remembered today, the Yacht Club was IWC's most popular model of the late 1960s and 1970s.

A year ago, IWC resurrected the Yacht Club in a new chronograph version and incorporated it into its Portuguese collection. Like other Portuguese models, the new Yacht Club has a big case (45.5 millimeters), Arabic numerals and a railroad-track-style minutes ring. Unlike other Portuguese watches, it has a gaggle of sailing-themed features: push-pieces shaped like bollards, a seafaring red-and-white color scheme and luminous hands and markers that can be read even in a thick, offshore fog. It immediately became the sportiest Portuguese model.

The case deserves much praise for its fine craftsmanship; its unusual bezel, which widens in a smooth slope from bottom to top; and its beautifully contrasting, polished and satin-finished surfaces.

The dial is very large, more than 40 millimeters wide, and is quite attractive and easy to read. Because it is black, it provides a high-contrast background for the silver-colored hour and minute hands. For greater legibility in the dark, 12 o'clock is marked with double markers. The only fly in the ointment, a tiny one, is the date display, which sits in an awkward position abutting the numeral "3." Furthermore, it switches from one day to the next very sluggishly, beginning the shift an hour before midnight.

SPECS

IWC PORTUGUESE YACHT CLUB CHRONOGRAPH

Manufacturer: IWC Schaffhausen, Baumgartenstrasse 15, CH-8201 Schaffhausen, Switzerland

Reference number: IW390204

Functions: Hours, minutes, seconds, date, flyback chronograph, 60-minute and 12-hour counters

Movement: Caliber 89360, 28,800 vph; 40 jewels; Incabloc shock absorption; Glucydur balance; fine adjustment via screws on the balance; diameter = 30 mm, height = 7.5 mm, 68-hour power reserve

Case: Stainless steel, curved sapphire crystal is nonreflective on both sides, fully threaded back with sapphire window, screw-down crown, water-resistant to 60 meters

Strap and clasp: Rubber strap, stainless-steel folding clasp

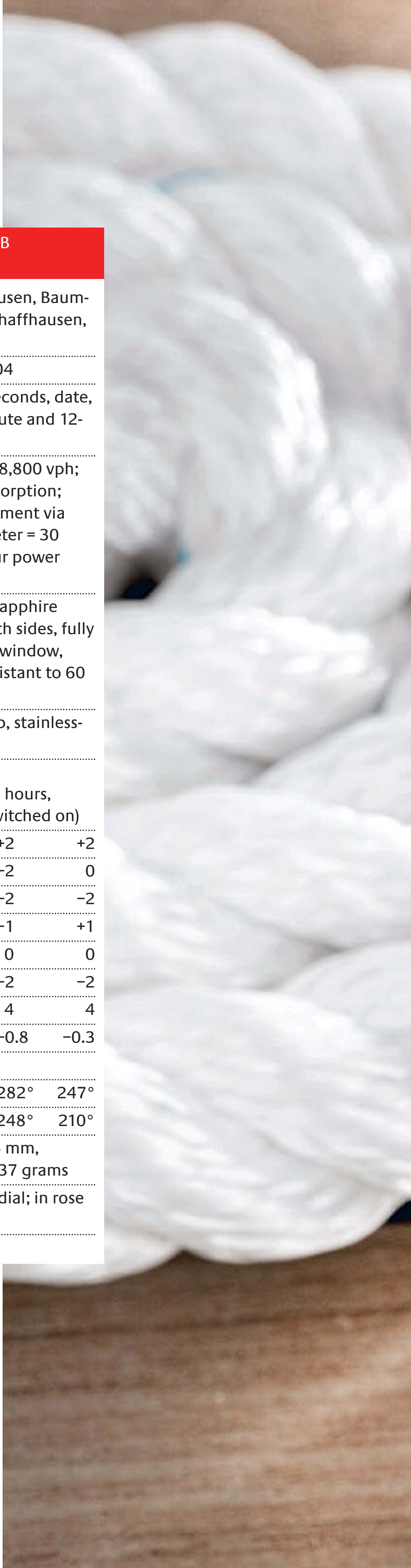
Rate results:
(Deviations in seconds per 24 hours, without/with chronograph switched on)

Dial up	+2	+2
Dial down	−2	0
Crown up	−2	−2
Crown down	−1	+1
Crown left	0	0
Crown right	−2	−2
Greatest deviation of rate:	4	4
Average deviation:	−0.8	−0.3
Mean amplitude:		
Flat positions	282°	247°
Hanging positions	248°	210°

Dimensions: Diameter = 45.4 mm, height = 14.5 mm, weight = 137 grams

Variations: With silver-white dial; in rose gold ($23,100)

Price: $12,600



The Yacht Club's beautiful folding clasp bears IWC's "Probus Scafusia" seal.

The flexible rotor bridge, which absorbs shocks, is visible through the caseback.

The Yacht Club is the first Portuguese model to be fitted with Caliber 89360, which IWC developed in-house and launched in 2007. This caliber offers one very appealing benefit: its elapsed-hours and elapsed-minutes counters are combined in a single subdial in the upper half of the dial. They can be read easily at a glance, as if you're reading the time in a second time zone. This feature is especially helpful in measuring long periods of time.

IWC's engineers developed a new, double-ratchet winding system for this caliber. Like the winding system used in some other IWC watches, it was inspired by the device that Albert Pellaton, IWC's former technical director, invented in the 1940s. Unlike that system, though, the one in Caliber 89360 has two double clicks rather than one, so twice as many ratchets pull and push to tighten the mainspring. And they're no longer controlled by a cam plate, but — as in an automobile engine — by a crankshaft. The ratchets are arranged so that they wind the mainspring even when the rotor moves only slightly. The winding mechanism is 30 percent more efficient than its forerunner,

SCORES

IWC PORTUGUESE YACHT CLUB CHRONOGRAPH

Strap and clasp (max. 10 points): Rubber strap with cleanly crafted, secure, easy-to-operate, beautifully designed folding clasp	8
Operation (5): Easy-to-grasp crown; a stop-seconds function and rapid reset for the date display; somewhat stiff pushpieces	4
Case (10): Good craftsmanship, appealing juxtaposition of satin-finished and polished surfaces, an attractively curved crown protector; the water-resistance level could be higher.	8
Design (15): The maritime design incorporates many elements of the attractive and elegant Portuguese collection.	14
Legibility (5): The time can be read at a glance thanks to luminous, high-contrast hands and a very large dial; the chronograph's elapsed-time counters are also easy to read.	4
Wearing comfort (10): Despite its large size, this watch fits surprisingly well, due largely to its flexible strap, which curves downward at the lugs.	8
Movement (20): Complex construction with flyback function, shudder-free fine adjustment, and shock-absorbent rotor bridge, but the decoration is no more than standard for this class of watch.	18
Rate results (10): The amplitude was too low when the chronograph was switched on, but except for this peccadillo, the rate results were good and the average deviation was very nearly zero seconds.	8
Overall value (15): The price is high, but the watch offers a better cost-benefit ratio than some other IWC models.	11
TOTAL:	**83 POINTS**

enabling its designers to make the rotor lighter, thereby reducing wear and tear on the movement. Caliber 89360's power reserve is three days.

Another special detail is the flexible rotor bridge, which absorbs shocks. The movement has a screwed balance for fine adjustment, a sign of high quality. Arguably the brightest highlight of this caliber is the elegant column wheel that controls the chronograph's functions. The elapsed-minutes counter is designed so that rather than jumping to the next full minute, it moves continuously.

The watch has a flyback function: with a single push of the push-piece, you can make the chrono hands return to zero and instantly start timing another interval.

For the chronograph's coupling, IWC uses an oscillating pinion similar to the one in the ETA 7750. This device was developed to simplify chronographs, but has proven to be a genuine improvement, not merely a simplification. IWC equips the chronograph center wheel with 240 teeth, which have a special profile to minimize the jump that occurs when the elapsed-seconds hand begins to move.

The movement also has a stop-seconds function and a quick-adjustment system for the date. These features, combined with the large, easy-to-grip crown, make the watch quite easy to set. The push-pieces are rather stiff, but this is to be expected with a column-wheel chronograph.

The neatly crafted decorations include pretty engraved patterns, polished screw heads, and a circular-grained base plate. Much of the movement is visible, thanks to the skeletonized rotor. Alas, the edges of the plates are neither beveled nor polished, and the levers, made of polished sheet metal, aren't quite as handsome as they would be if they had been milled.

The rate results were quite impressive. The watch we tested lost only one second per day on the wrist. The timing-machine results were similar: the average deviation for all positions was just −0.8 seconds with the chronograph switched off and −0.3 seconds with it on. In either mode, the greatest deviation among the various positions was four seconds. The balance's amplitude declined significantly only once: when the chronograph was running and the watch was held in a hanging position, it fell to a weak 210 degrees.

The Yacht Club is one of the few very big watches that can be worn comfortably by someone with an average-sized wrist. The end of its rubber strap will reach almost all the way around to the opposite lug, but the watch nonetheless fits snugly. The texture of the inside of the strap helps minimize sweating. The outer surface of the strap boasts attractive, fabric-like embossing. The fact that the strap is made of rubber, not leather, does not detract from the watch's high-quality appearance. The clasp is well-crafted and sturdy. It folds closed securely and opens easily. Like the case, it boasts a combination of satin-finished and polished surfaces.

One of the few complaints we have about the watch is with its relatively low level of water-resistance, just 60 meters, which is not enough for serious water sports. The original Yacht Club was water-resistant to 100 meters.

With a retail price of $12,600, this chronograph is priced higher than some of its competitors. Then again, the Portuguese Automatic, at $10,900, doesn't cost much less. the Yacht Club Chronograph's cost-benefit ratio is better than that of some other IWC models. The watch's sportily elegant styling, admirable rate results, high level of craftsmanship and ease of use combine to make it a welcome passenger on any voyage.

○

Variations of the Yacht Club with silver-white dial and with rose-gold case

Samurai Stopwatch

Seiko's Ananta Automatic Chronograph was inspired by traditional Japanese swords. We find out if this timepiece and its manufacture *movement are really cutting-edge.*

BY ALEXANDER KRUPP

PHOTOS BY FOTOFABRIK KEMPTEN

SEIKO
Ananta
AUTOMATIC
TACHYMETER
JAPAN
8R28

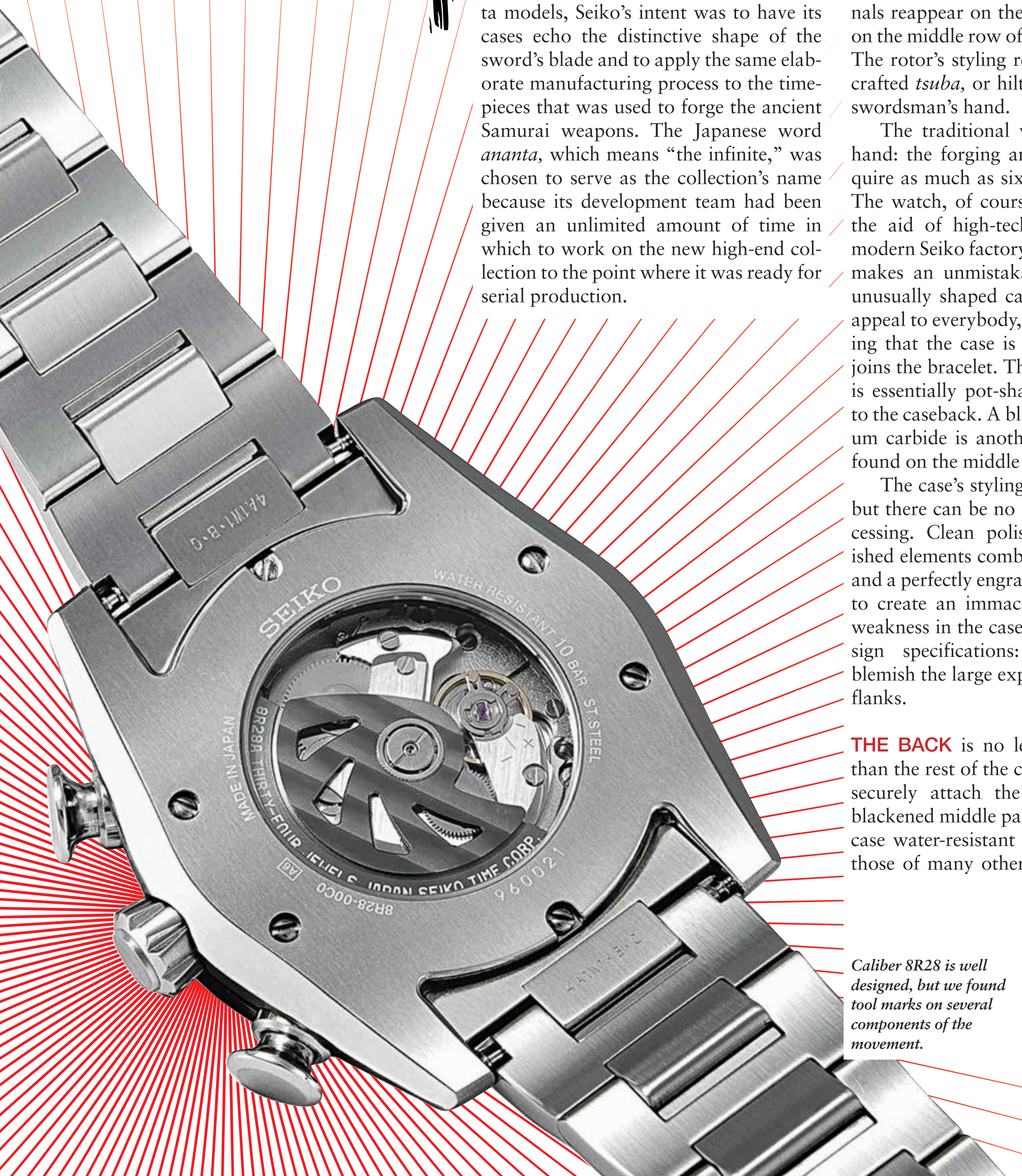
The Ananta Automatic Chronograph, at 46 millimeters in diameter, appears big enough to use as a weapon. This, however, is not its primary similarity with the *katana,* the Japanese sword invented in the Middle Ages. In developing the Ananta models, Seiko's intent was to have its cases echo the distinctive shape of the sword's blade and to apply the same elaborate manufacturing process to the timepieces that was used to forge the ancient Samurai weapons. The Japanese word *ananta,* which means "the infinite," was chosen to serve as the collection's name because its development team had been given an unlimited amount of time in which to work on the new high-end collection to the point where it was ready for serial production.

That moment finally arrived in 2009 at the Baselworld watch fair, where Seiko unveiled wristwatches with flanks that arced like the blade of a *katana,* had daringly diagonal slopes and were polished with the utmost exactness. Bold diagonals reappear on the applied indices and on the middle row of links in the bracelet. The rotor's styling recalls the artistically crafted *tsuba,* or hilt, which protects the swordsman's hand.

The traditional weapon is made by hand: the forging and polishing can require as much as six weeks to complete. The watch, of course, is produced with the aid of high-tech machinery at the modern Seiko factory, and its architecture makes an unmistakable statement. The unusually shaped case admittedly won't appeal to everybody, and there's no denying that the case is quite wide where it joins the bracelet. The body of the watch is essentially pot-shaped and is screwed to the caseback. A black overlay of titanium carbide is another daring detail: it's found on the middle piece of the case.

The case's styling is a matter of taste, but there can be no doubt about its processing. Clean polishing and satin-finished elements combine with exact edges and a perfectly engraved tachymeter scale to create an immaculate unit. The sole weakness in the case results from the design specifications: fingerprints soon blemish the large expanse of the polished flanks.

THE BACK is no less well constructed than the rest of the case. Six thick screws securely attach the underbody to the blackened middle part and help make the case water-resistant to 100 meters. Like those of many other mechanical Seikos,



Caliber 8R28 is well designed, but we found tool marks on several components of the movement.

SPECS

SEIKO ANANTA AUTOMATIC CHRONOGRAPH

Manufacturer: Seiko Watch Corporation, 8-10, Toranomon 2-Chome, Minato-ku, Tokyo 105-8467, Japan

Reference number: SrQ003J1

Functions: Hours, minutes, small seconds; chronograph with counters for 12 elapsed hours and 30 elapsed minutes; date display; stop-seconds function

Movement: *Manufacture* Caliber 8R28, automatic, chronograph; 28,800 vph; 34 jewels; fine adjustment via index; Diashock shock absorption; bidirectional winding; 45-hour power reserve; diameter = 28 mm, height = 7.2 mm

Case: Stainless steel, flanks coated with titanium carbide; flat sapphire crystal is nonreflective on its inner surface; caseback with sapphire viewing window held in place by six screws; water-resistant to 100 meters

Bracelet and clasp: Stainless steel with secure single-folding clasp

Rate results:

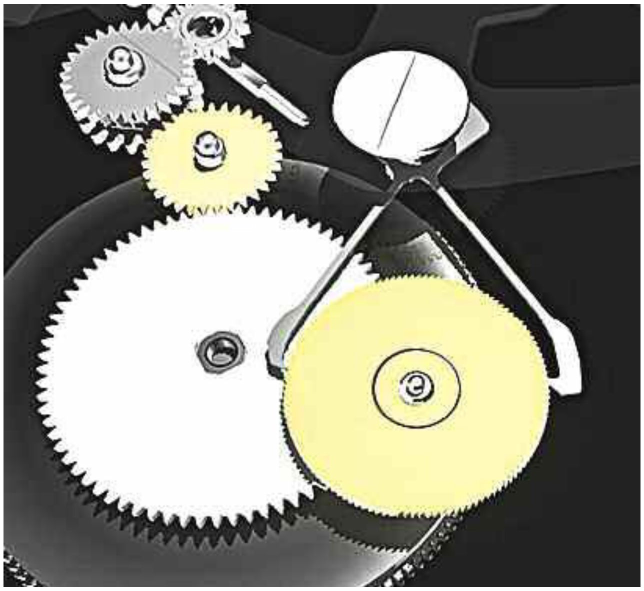
(deviation in seconds per day, without/with chronograph switched on)

Dial up	+9	+8
Dial down	+8	+4
Crown up	+1	+1
Crown down	0	-10
Crown left	+6	+4
Crown right	-5	-6
Greatest deviation	14	18
Average deviation	+3.2	-0.2
Average amplitude:		
Flat positions	265°	233°
Hanging positions	230°	203°

Dimensions: Diameter = 46 mm, height = 15 mm, weight = 236 g

Variations: With black bezel and alligator-skin strap ($3,200); titanium case, black bezel and carbon dial ($4,600)

Price: $3,200



Seiko's "Magic Lever" has two arms that simultaneously pull and push the pawl winding wheel for efficient winding.

Pros

- + *Manufacture* movement
- + All exterior components are well crafted
- + User-friendly chronograph

Cons

- − Somewhat hard to read
- − Irregular rate
- − Imperfect finishing of movement parts

the caseback features a sapphire viewing window.

A peek through that window reveals *manufacture* Caliber 8R28, which made its debut in the Velatura watch line in 2008. Its advantages include an especially efficient self-winding mechanism with the so-called "Magic Lever," which Seiko first introduced way back in 1959. One end of it is eccentrically borne on the rotor's staff; two spread arms at the other end engage on either side of the pawl winding wheel, which conveys winding energy to the barrel. Thanks to the Magic Lever's elliptical motion, one arm pulls on the pawl winding wheel while the other pushes the same wheel whenever the ball-borne rotor turns. This technique is more efficient than other, similar automatic winding mechanisms, like IWC's Pellaton winding system, in which only one of the two arms pulls (and its counterpart doesn't push) on the pawl winding wheel in each of the rotor's directions of rotation.

When the rotor begins to turn in the other direction, both arms again cooperate by either pulling or pushing. A more efficient way to wind an automatic movement would be difficult to imagine. Just a few minutes on the wrist are all that's needed to replenish the mainspring with its complete reservoir of power. The Ananta Automatic Chronograph accumulates only a 45-hour power reserve rather than the lengthy 72 hours of some other Seiko models.

Furthermore, this movement is also equipped with a column wheel that ensures, among other things, equal and regular pressure points for the start and stop functions. Unfortunately, however, the chronograph mechanism in Caliber 8R28 is positioned on the dial side of the move-

The 46-mm stainless-steel case is unconventionally shaped and very well crafted.

ment, so the column wheel is hidden beneath the dial. Vertical chronograph coupling is another user-friendly feature: it helps the elapsed-seconds hand get off to a clean start, rather than jumping ahead, when the start button is pressed. A person determined to find something to criticize about this highly functional *manufacture* movement will find what he's looking for when he scrutinizes the escapement: Seiko gave this one neither a freely breathing hairspring nor a fine adjustment mechanism with weight screws on the balance. Instead, there is only a simple index-based system to finely adjust the rate.

In the rate test, our electronic Witschi timing machine calculated major deviations among the various positions. With the chronograph switched off, the rates in the two most widely separated positions differed by 14 seconds; with the chronograph switched on, the difference increased to a full 18 seconds. On the other hand, the daily gain in ordinary operation was a fairly low value of slightly more than three seconds, as measured both by the timing machine and on the wrist. When the chronograph is running, the highly dissimilar rates in the positions average out and yield a scarcely measurable gain. Despite the acceptable average values, we had to subtract several points for the large rate differences.

The fine processing of the movement's components is also not overly impressive. Seiko gives satin finishing only to the bridges on the top of the movement and polishes only the edges, which are boldly beveled. It's especially unfortunate that tool marks blemish many individual components, such as the pawl winding wheel, the visible screws and, worst of all, the base plate. The most beautiful component is surely the rotor: it has a graphite-gray coating, it's pierced in several places and it's adorned with Geneva waves.

THE ANANTA is very easy to operate thanks to its oversized, mushroom-shaped buttons and its large, tapered crown. Furthermore, the watch is equipped with both a stop-seconds function and a quick-reset mechanism for the date display. People who go to bed late will appreciate the jumping date: the one on our test watch switched to the next day's date two minutes early, but this beat having to wait an hour or two for the date display to advance.

The watch is also quite comfortable to wear. Although its case measures 46 millimeters in diameter and tips the scales at a hefty 236 grams, it fits very well around the wrist. The supple bracelet and single-folding clasp also contribute to the good fit. The watch tends to be a little top-heavy on the wrist, but considering its weight, this is unavoidable. Fortunately, adjusting the bracelet to fit snugly re-

THE DIAL'S COLOR SCHEME IS WELL THOUGHT OUT: CHRONOGRAPH HANDS ARE RED, WHILE TIMEKEEPING HANDS ARE STEELY SILVER.

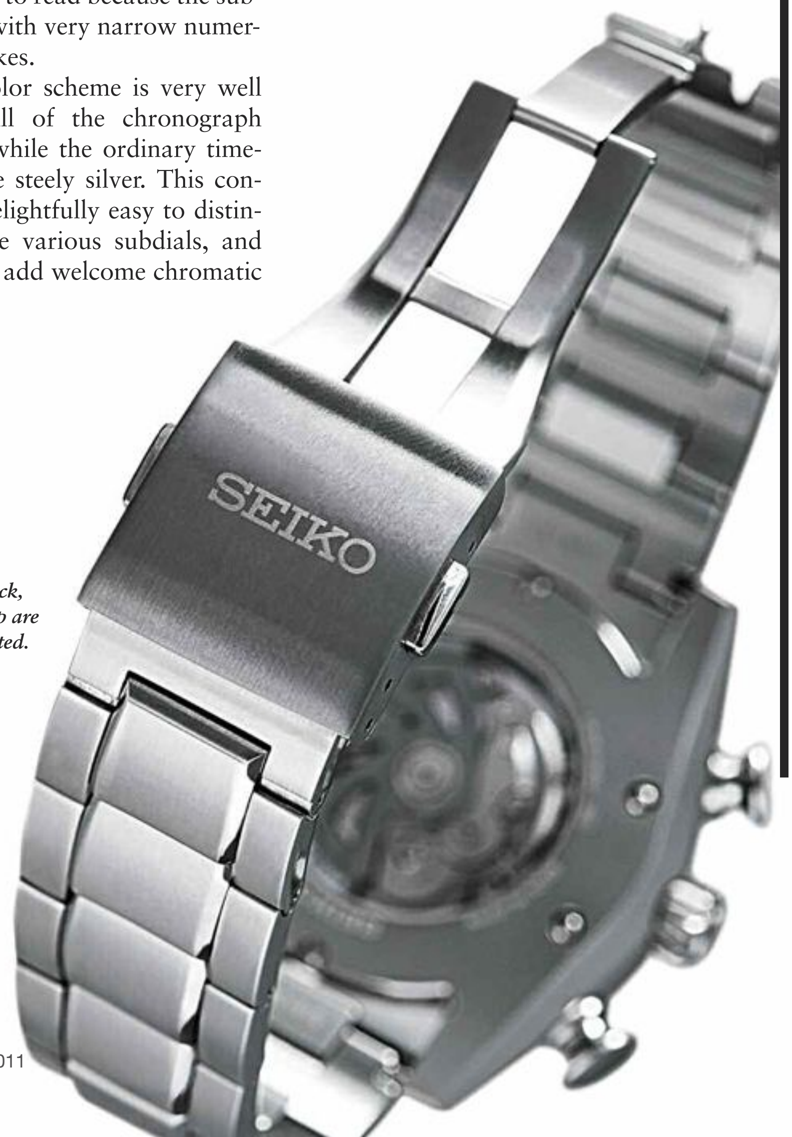
sults in a surprisingly comfortable wearing experience. The 15-millimeter height and the many edges of the case make it a bit more difficult to slip the sleeve of a shirt or a suit jacket over this watch than it is to do so over most other timepieces.

Both the bracelet and its secure folding clasp are top-notch in terms of their styling and craftsmanship. Only the outer flip-lock on the clasp detracts somewhat from the high-quality impression: this is the sole component that's not milled from a solid block of metal. It's made from a steel plate, although the plate used is, fortunately, quite thick.

The legibility of the watch isn't quite as satisfying as the operation and wearing comfort. The three center-mounted hands are somewhat too short, and their long counterweights often obscure the chronograph's elapsed-time counters. Furthermore, the elapsed minutes and hours aren't really easy to read because the subdials are small, with very narrow numerals and thin strokes.

The dial's color scheme is very well thought out. All of the chronograph hands are red, while the ordinary timetelling hands are steely silver. This contrast makes it delightfully easy to distinguish among the various subdials, and the red elements add welcome chromatic accents to the dial. In other aspects, the dial is rather conventionally styled, although the wide rim around the elapsed-minutes counter adds an individualistic touch. Another pleasing detail is the black date disk, which harmoniously integrates into the black dial.

With a retail price of $3,200, the Ananta Automatic Chronograph isn't what most would consider inexpensive, but the functional diversity of the movement, the outstanding craftsmanship of the case, bracelet and dial, and the high level of user-friendliness make it a good investment. ○



Except for the flip-lock, the bracelet and clasp are very solidly constructed.

SCORES

SEIKO ANANTA AUTOMATIC CHRONOGRAPH

Bracelet and clasp (max. 10 points): The stainless-steel bracelet is outstandingly well crafted; the sturdy clasp, except for the outer flip-lock, is milled from a solid block of steel. **9**

Operation (5): Perfect operation is guaranteed by gigantic buttons and a large crown that is even larger at the top; the watch offers both a stop-seconds function and a quick-reset mechanism for the date display. **5**

Case (10): The steel case is elaborately constructed and very well crafted, but the large surfaces of the polished flanks can become smudged with fingerprints. **9**

Design (15): The case's distinctive shape is influenced by that of a samurai sword; opinions are likely to differ about its aesthetic appeal. **12**

Legibility (5): The center-mounted hands are a bit too short, and their long counterweights often obstruct the view of the chronograph's elapsed-time counters. The hands for the time and the stopwatch functions have different colors to prevent confusion. **3**

Wearing comfort (10): The case, bracelet and clasp all fit very well around the wrist, although the distribution of weight makes the watch somewhat top-heavy. **8**

Movement (20): The *manufacture* caliber, with chronograph and date display, has an efficient automatic winding mechanism, a high-performance mainspring, a column wheel and vertical coupling; fine adjustment via an index is rather simple, as is the finishing of the movement's components. **15**

Rate results (10): The daily gain is slight, but the deviation among the various positions is too great; with the chronograph running, the rate is even more irregular and the amplitude is rather low. **5**

Overall value (15): *Manufacture* movement, outstanding craftsmanship, very comfortable to wear and convenient to operate, original case design: $3,200 is a fair price. **13**

TOTAL: 79 POINTS